INTISARI

Latar Belakang: *Severe critical event* didefinisikan sebagai terjadinya komplikasi pernapasan, jantung, alergi, atau neurologis yang memerlukan intervensi segera karena dapat menyebabkan disabilitas atau kematian. Pasien dengan riwayat prematuritas cenderung mengalami *severe critical event* karena bayi prematur memiliki kelainan pada perkembangan organ dan fisiologi yang belum matang. Kejadian *severe critical* ini meliputi segala episode bronkospasme, laringospame, aspirasi pulmonar, stridor, *croup*, desaturasi, hipotensi, aritmia, perdarahan, henti jantung perioperatif, anafilaksis, kerusakan saraf, *delayed emergence* dan *medication errors*.

Tujuan: Penelitian ini bertujuan untuk mencari korelasi riwayat prematuritas terhadap terjadinya *severe critical event* perianestesi pada pasien pediatrik di RSUP Dr Sardjito.

Metode: Studi kohort prospektif ini melibatkan pasien pediatrik yang menjalani prosedur anestesi di RSUP Dr. Sardjito. Kriteria inklusi meliputi pasien usia ≤ 5 tahun yang menjalani prosedur anestesi, sedangkan data yang tidak lengkap dieksklusi. Variabel bebas adalah riwayat prematuritas, sedangkan variabel terikat adalah insiden *severe critical event*. Analisis bivariat menggunakan *Pearson*'s *chi-square*, *Fisher's exact test*, dan *t-test*. Analisis multivariat regresi logistik dilakukan terhadap variabel dengan $p < 0,25$, dengan batas signifikansi statistik ditetapkan pada $p < 0,05$.

Hasil: Pada penelitian ini terdapat total 333 subjek yang memenuhi kriteria inklusi, yakni pasien pediatrik usia ≤ 5 tahun. Seluruh subjek dimasukkan ke dalam analisis karena tidak ada subjek yang tereksklusi akibat data tidak lengkap. Karakteristik demografi menunjukkan rerata usia subjek adalah 1,94 (±1,51) tahun, yang didominasi oleh pasien laki-laki sebanyak 203 subjek (61,0%). Dari seluruh subjek, *severe critical event* terjadi pada 62 subjek (18,6%). Analisis bivariat menunjukkan tidak terdapat korelasi bermakna antara riwayat prematuritas dengan kejadian *critical event* (RR = 0,58; 95% CI = 0,15–2,20; $p = 0,400$). Analisis multivariat menemukan faktor lain yang berpengaruh signifikan secara independen, yaitu: riwayat komorbiditas (OR = 11,29; $p < 0,001$), status fisik ASA > 2 (OR = 3,81; $p = 0,010$), dan usia ≤ 1 tahun (OR = 2,01; p = 0,037).

Kesimpulan:
Pada penelitian ini, riwayat prematuritas tidak terbukti berpengaruh terhadap terjadinya *severe critical event* perianestesi pada pasien pediatrik di RSUP Dr. Sardjito.

Kata Kunci: *severe critical event,* prematuritas, anestesi, pediatrik

ABSTRACT

Background: Severe critical event is defined as the occurrence of respiratory, cardiac, allergic, or neurological complications requiring immediate intervention due to the potential for causing disability or death. Patients with a history of prematurity are prone to experiencing severe critical events because premature infants have abnormalities in organ development and immature physiology. These severe critical events include any episodes of bronchospasm, laryngospasm, pulmonary aspiration, stridor, croup, desaturation, hypotension, arrhythmia, hemorrhage, perioperative cardiac arrest, anaphylaxis, nerve damage, delayed emergence, and medication errors.

Objective: This study aims to investigate the correlation between a history of prematurity and the occurrence of perianesthetic severe critical events in pediatric patients at Dr. Sardjito General Hospital.

Methods: This prospective cohort study involved pediatric patients undergoing anesthesia procedures at Dr. Sardjito General Hospital. Inclusion criteria included patients aged ≤ 5 years undergoing anesthesia procedures, while incomplete data were excluded. The independent variable was a history of prematurity, while the dependent variable was the incidence of severe critical events. Bivariate analysis was performed using Pearson's chi-square, Fisher's exact test, and t-test. Multivariate logistic regression analysis was performed on variables with $p < 0.25$, with statistical significance defined as $p < 0.05$.

Results: In this study, a total of 333 subjects met the inclusion criteria, specifically pediatric patients aged ≤ 5 years. All subjects were included in the analysis as no subjects were excluded due to incomplete data. Demographic characteristics showed a mean subject age of 1.94 (±1.51) years, with a male predominance of 203 subjects (61.0%). Out of all subjects, analyzed, severe critical events occurred in 62 patients (18.6%). Bivariate analysis demonstrated no significant correlation between a history of prematurity and the occurrence of critical events (RR = 0.58; 95% CI = 0.15–2.20; $p = 0.400$). However, multivariate analysis identified other independent significant factors: history of comorbidity (OR = 11.29; $p < 0.001$), ASA physical status > 2 (OR = 3.81; $p = 0.010$), and age ≤ 1 year (OR = 2.01; $p = 0.037$).

Conclusion: In this study, a history of prematurity was not proven to have a significant effect on the occurrence of perianesthetic severe critical events in pediatric patients at Dr. Sardjito General Hospital.

Keywords: severe critical event, prematurity, anesthesia, pediatric